ABSTRACT OF THE DISCLOSURE

A silicon substrate (1) includes a neutron detecting part comprising a ^{10}B diffusion layer which includes boron introduced therein containing isotopes ^{10}B, an α-ray detecting part including a pn junction (13) defined by a p well (11) and an n well (12), and an analytic circuit part for analyzing electric charge generated in the pn junction (13), all of which are provided on a single chip. An α-ray generated in the ^{10}B diffusion layer (10) as a result of entering of neutrons generates electron-hole pairs (16) in a depletion layer of the pn junction (13). The analytic circuit part collects and analyzes electric charge of the electron-hole pairs (16). On the basis of the result of analysis, the volume of neutrons entering into the pn junction (13) is specified.